

REMARKS

Claims 1, 2, 8-12, and 18-31 are pending. By this Amendment, the specification is amended. No new matter is added. Reconsideration in view of the above amendments and following remarks is respectfully requested.

Entry of the amended claims is proper under 37 C.F.R. §1.116 since the amendments: (1) place the application in condition for allowance for the reasons discussed herein; (2) do not raise any new issues requiring further search and/or consideration since the amendments amplify issues previously discussed throughout prosecution without incorporating additional subject matter; (3) satisfy a requirement of form asserted in the previous Office Action; and/or (4) place the application in better form for appeal, if necessary. Entry is thus requested.

The Office Action objected to the disclosure, arguing that the meaning of the term “interoperable” at page 6, paragraph 19, line 1 is not clear. Page 6, paragraph 19, line 1, states that “Figure 1 is a view explaining an example of bin quantization, which is interoperable.” This means that a comparison between histograms using bin quantization according to the invention is possible as indicated in paragraph 19, lines 6-7. Accordingly, the objection to the disclosure should be withdrawn.

The Office Action objected to the disclosures due to an informality in paragraph 5. The informality in paragraph 5 has been corrected. Accordingly, the objection should be withdrawn.

The Office Action rejected claims 23 and 25-30 under 35 U.S.C. §102(e) as being anticipated by Vishwanath et al. (hereinafter “Vishwanath”), U.S. Patent No. 6,345,126. The rejection is respectfully traversed.

Independent 23 recites a method of transferring information describing an image using a color histogram, comprising transferring together and sequentially a first bit of each of a plurality of bins, transferring together and sequentially a second bit of each of the plurality of bins, and transferring together and sequentially all the bits having a same association for each of the plurality of bins until all bits have been transferred. The Examiner, in his rejection, refers to col. 1, lines 42-44 of Vishwanath which state that “JPEG has a progressive transmission mode, in which an image is stored or transmitted with the most significant bits first, then the next most significant bits, and so on.” The Examiner further states that “progressive transmission starts with the most significant bit of all data values to be sent and that each of the data values whose bits are to be progressively transmitted are considered a value of a bin.”

However, it is improper to compare the JPEG progressive transmission mode which transfers an image in embedded resolution encodings to provide a progressively higher resolution image as is clear from the full paragraph at col. 1, lines 42-59 of Vishwanath, with a method of transferring information describing an image using a color histogram, as recited in independent claim 23. Further, because the JPEG transmission mode forwards most important bits (of an image) first, the JPEG progressive transmission mode would not read on a method (of transferring information describing image using a color histogram) which transfers together

and sequentially a first bit of each of a plurality of bins, transfers together and sequentially a second bit of each of the plurality of bins, and transfers and sequentially all the bits having a same association for each of the plurality of bins until all bits have been transferred.

Accordingly, the rejection of independent claim 23 over Vishwanath should be withdrawn. Dependent claims 25-30 are allowable at least for the reasons discussed above with respect to independent claim 23, from which they depend, as well as for their added features.

The Office Action rejected claims 1-2 and 11-12 under 35 U.S.C. §103(a) as being unpatentable over Bitran et al. (hereinafter "Bitran"), Great Britain Patent No. 2,329,543, and Vishwanath. The rejection is respectfully traversed.

Independent claim 1 recites a method of receiving information describing an image using a color histogram, comprising receiving a first sequence of bits and a second sequence of bits, wherein each bit of the first sequence and each bit of the second sequence is associated with a bin and a threshold, and wherein in the order of bits of both the first sequence and the second sequence, no adjacent bits are associated with the same bin. Independent claim 11 recites an apparatus configured to receive and process information describing an image using a color histogram, comprising means for receiving and processing a first sequence of bits and a second sequence of bits, wherein each bit of the first sequence and each bit of the second sequence is associated with a bin and a threshold, and wherein in the order of bits of both the first sequence and the second sequence, no adjacent bits are associated with the same bin.

The Examiner argues that Bitran discloses all of the features of independent claims 1 and 11 except that Bitran does not expressly disclose that no adjacent bits have the same bin. The Examiner then applies the teachings of Vishwanath, again referring to col. 1, lines 42-44, and arguing that “it is well known that JPEG has a progressive transmission mode in which an image is transmitted with the most significant bits first.” The Examiner then concludes that “it would have been obvious to one of ordinary skill in the art to modify Bitran with the teaching of Vishwanath by progressively transmitting data, most significant bits first.”

However, Bitran teaches a video codec and method of encoding video frames. Thus, Bitran is associated with video compression, not transmission or reception of data. Further, it is improper to compare a method of compressing video image data to prepare it for transmission to a method of receiving information describing an image using a color histogram, as recited in independent claim 1, and an apparatus configured to receive and process information describing an image using a color histogram, as recited in independent claim 11. That is, a color histogram is information representing color distribution in multimedia data, as opposed to the actual image data. Further, it is improper to compare a histogram bin to the block of fixed size used in the Bitran video compression method. The number of bins of a color histogram represents a number of colors, while in the Bitran video compression method, blocks of fixed size are used to compare a present frame to a previously compressed frame in order to determine whether all of the blocks of the present frame need to be compressed.

Further, it would not have been obvious to modify Bitran in view of Vishwanath as proposed by the Examiner. The Examiner compares Bitran's block comparison of the present frame and the compressed video frame to the step in independent claim 1 of receiving a first sequence of bits and a second sequence of bits and the means for receiving and processing a first sequence of bits and a second sequence of bits of independent claim 11. However, in the Bitran compression method, such a comparison is made block to block between corresponding blocks of the present frame and the previously compressed video frame, in order to determine which blocks need to be compressed. Such a comparison does not involve transmission or receiving methodology, but merely prepares video frames for transmission. Thus, the Examiner's comments regarding the JPEG progressive transmission mode are improper in the context of the comparison performed for compression purposes taught by Bitran. Transmission of the compressed data occurs independent of the comparison and compression. Thus, it would not have been obvious to modify Bitran in view of Vishwanath as proposed by the Examiner.

Accordingly, the rejection of independent claims 1 and 11 over the combination of Bitran and Vishwanath is improper and should be withdrawn. Dependent claims 2 and 12 are allowable at least for the reasons discussed above with respect to independent claims 1 and 11, from which they respectively depend, as well as for their added features.

The Office Action rejected claims 8-10 and 18-20 under 35 U.S.C. §103(a) as being unpatentable over Bitran and Vishwanath, and further in view of Cheung et al. (hereinafter "Cheung"). The rejection is respectfully traversed.

Dependent claims 8-10 and 18-20 are allowable over the combination of Bitran and Vishwanath at least for the reasons set forth above with respect to independent claims 1 and 11, from which they respectively depend, as well as for their added features. Cheung fails to overcome the deficiencies of the combination of Bitran and Vishwanath, as Cheung is merely cited as allegedly teaching grouping bits associated with the same threshold together. Accordingly, the rejection of claims 8-10 and 18-20 over Bitran, Vishwanath, and Cheung should be withdrawn.

The Office Action rejected claim 21 under 35 U.S.C. §103(a) as being unpatentable over Moed et al. (hereinafter "Moed"), U.S. Patent No. 5,889,885 and Wittenstein et al. (hereinafter "Wittenstein"), U.S. Patent No. 6,026,180. The rejection is respectfully traversed.

Independent claim 21 recites a method of describing color information of images using a color histogram. The method comprises selecting a number N of bins as a subset of M bins, quantizing color information of an image using the N number of bins, and describing the image using the quantized color information, where $N < M$, and wherein N number of bins and M number of bins share at least one common threshold.

In contrast, Moed, in the section referred to by the Examiner, teaches a method of providing representation of the quality of text based images such as labels. Moed teaches using a histogram of piece sizes as a feature set for quality estimation. Pieces are runs that are touching on different lines of an image or label. Connected runs form pieces. A piece can be a type written character or a blotch of noise. The range of pieces is divided into bins. Each bin

contains the number of pieces and images that are within the size range of the bin. A decision making process is used to examine the histogram to determine if the image is of better quality than any of the other threshold images. See col. 10, line 55-col. 12, line 31 of Moed. At col. 12, lines 29-31, referred to by the Examiner, Moed teaches that “neural networks can be used with only selected bins of the piece size histograms being used as inputs.”

The Examiner admits that Moed does not expressly disclose “quantizing color information of an image using the N number of bins” and “describing the image using the quantized color information.” However, the Examiner then applies the teaching of Wittenstein, which allegedly teaches quantizing colors using a color histogram, and then concludes that “it would have been obvious to one of ordinary skill in the art to modify the combined invention of Moed with the teaching of Wittenstein by quantizing color information using bins of a color histogram to result in an indexed image.” However, there is no motivation or teaching in Moed or Wittenstein that would have suggested modifying the process of determining quality of a label as taught by Moed to quantize color information of an image or describe an image using quantized color information as suggested by the Examiner.

Accordingly, the rejection of independent claim 21 over Moed and Wittenstein should be withdrawn.

The Office Action rejected claim 22 under 35 U.S.C. §103(a) as being unpatentable over Moed and Wittenstein, and further in view of Abdel-Mottaleb et al. (hereinafter “Abdel-Mottaleb”), U.S. Patent No. 6,163,622. The rejection is respectfully traversed.

Dependent claim 22 is allowable over the combination of Moed and Wittenstein at least for the reasons discussed above with respect to independent claim 21, from which it depends, as well as for its added features. Abdel-Mottaleb fails to overcome the deficiencies of the combination of Moed and Wittenstein, as it is merely cited as allegedly teaching image searching. Accordingly, the rejection of dependent claim 22 over Moed, Wittenstein, and Abdel-Mottaleb should be withdrawn.

The Office Action rejected claim 24 under 35 U.S.C. §103(a) as being unpatentable over Vishwanath, and further in view of Fukushima, U.S. Patent No. 5,724,457. The rejection is respectfully traversed.

Dependent claim 24 is allowable over Vishwanath at least for the reasons set forth above with respect to independent claim 23, from which it depends, as well as for its added features. Further, Fukushima fails to overcome the deficiencies of Vishwanath, as Fukushima is merely cited for allegedly teaching matching using only partial matching using a prefix of an input string. Accordingly, the rejection of dependent claim 24 over Vishwanath and Fukushima should be withdrawn.

The Office Action rejected claim 31 under 35 U.S.C. §103(a) as being unpatentable over Vishwanath, and further in view of Abdel-Mottaleb. The rejection is respectfully traversed.

Dependent claim 31 is allowable over Vishwanath at least for the reasons discussed above with respect to independent claim 23, from which it depends, as well as for its added features. Further, Abdel-Mottaleb fails to overcome the deficiencies of Vishwanath, as it is merely cited

Serial No. 09/908,732
Reply to Office Action dated May 2, 2005

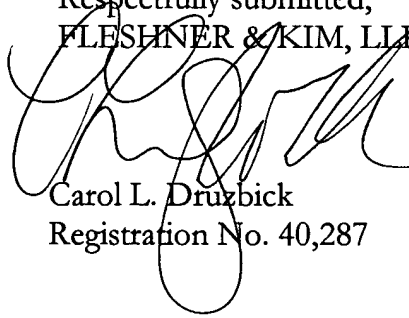
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for allegedly teaching image searching. Accordingly, the rejection of dependent claim 31 over Vishwanath and Abdel-Mottaleb should be withdrawn.

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, Carol L. Druzbeck, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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Date: July 29, 2005

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